DAZZLE ME

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"Look at me!
Look at me!
Look at me NOW!
It is fun to have fun
But you have to know how."
—Dr. Seuss, *The Cat In The Hat*

It's summer while I write this. (Of course, it's probably October when you're reading this, but here in California October is still summer—in California it's always summer.) So, in the techie equivalent of beach reading, the Spider went in search of cheap thrills: Web sites that have (or at least aspire to have) some dazzling or thrilling effect. Being a techie, I want dazzle that shows some technology.

IPic—A Match Head Sized Web Server • Hariharasubrahm Shrikumar • http://www-ccs.cs.umass.edu/~shri/iPic.html

If you can get through, follow the links on this site to a perfectly ordinary Web server. It runs an RFC-1122-compliant TCP/IP stack, a Web server, and telnet. The author is in the process of implementing a Web cam. The thing that's special about this server is that it's "about the size of a match head" with its software squeezed into 1,024 12-bit words of ROM. The single-chip computer includes CPU, memory, a serial port, and a clock. It gets power through the serial line, and connects directly to an Internet router. Files are stored in EEPROM. The hardware costs about a dollar.

From the photos, I think the match head comparison is a little exaggerated—the machine looks closer to the size of two match heads, not one, and the kitchen-size wood matches (not the matchbook kind) at that. Clearly, with this device you can make every light socket in your house its own Web server. What you could do with a lamp that doubles as a Web server I leave to your imagination, because I can't think of anything right now.

An impressive demo.

IPIX • http://www.ipix.com

Ipix has a technology for giving a 360-degree, full-sphere, photographic view of, well, whatever they've taken a 360-degree picture of. Samples reachable from the site are things like real estate for sale and tourist attractions. By moving the mouse one can, for example, look around as if one were in the middle of the Capitol Mall. A zoom function makes the pixels bigger.

The overall effect feels a lot like you've wandered into a game of Myst in the middle of Washington, D.C., except it's the bits that are really there, not generated fractals of an imaginary universe. (Repeat after me: "Washington, D.C. is not a fractal-generated imaginary universe.")

Having looked around, recovered from the dizziness, and sort of learned how to control the thing, my next impulse was to take a step forward. No such luck. Ipix is stuck in one place. While the single 360-degree viewpoint is amusing, when they've enough photos stored to allow real motion (or perfect the interpolation algorithms to do it with fewer photos) this site will be a real knockout.

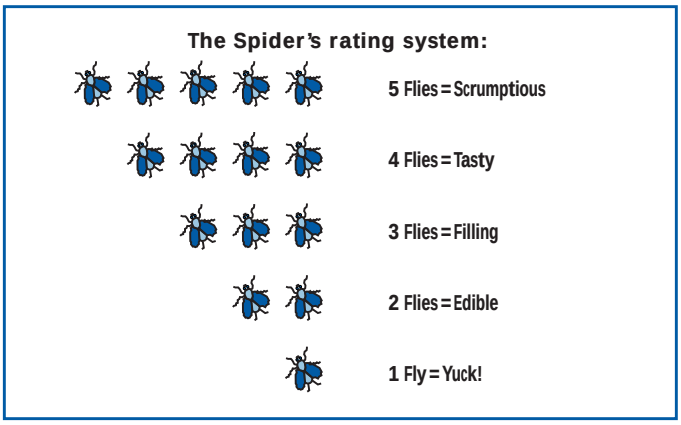
Beatnik Inc. • http://www.beatnik.com

Sound on the Net is usually passive. Click something, and it may only play for you, but it will play just one thing. Beatnik sells yet another music format, one that is more than just the sum of its parts. Their format comes as a collection of tracks that can be dynamically mixed. The site includes directions for using Beatnik, Dynamic HTML, and JavaScript to make your Web site sonically respond to cursor movement. Beatnik gives away a few sounds to encourage people to use them on their Web sites. From Beatnik's point of view, the more often the Beatnik-less Web surfer sees "Why don't you load our plug-in?" the better.

Try the David Bowie demo (http://www.davidbowie.com/fame/index.html) where you can do your own real-time remixing of David Bowie's "Fame." As the site advertises, you can create "unique grooves and instrument combinations that even the original musicians probably never thought of!" (For good reason!)

After you've played with the Bowie track for a while, try the sonified showcase for other examples of what's being done with Beatnik technology. My favorites are Plauguescape (http://www.plaguescape.com/), where you compose by moving the cursor over a locust, and Pedro, El Cantador (http://www.nemo.fr/beatnik/lab/pedro/pedro.htm), who varies his opera singing under your command. Remember to applaud.

Great fun.



University of Virginia Neurovisualization Lab • J. Hunter Downs III • http://www.nvl.virginia.edu/javaman/

The Neurovisualization Lab is working on tools that will allow surgeons to see inside a patient's brain. In addition to developing systems for rapidly accessing images, work at the lab focuses on understanding those images. This includes low-level tasks such as image segmentation and registration and high-level tasks such as planning robotic surgeries.

The dazzle element at NVL is the JavaMan applet (http://www.nvl.virginia.edu/javaman/). JavaMan shows 135 MRI slices of somebody's brain. The user can drag a slider up and down next to a picture of a head to select a slice to view. Nice, but not stunning.

More intriguing is the props-based interface for brain visualization (http://www.nvl.virginia.edu/aui/index.html). The surgeon holds a doll's head in one hand and a transparent plastic "plane" in another. "Pointing" with the plane to the head causes the system to show that three-dimensional MRI cross-section. This is evidently quite a natural interface, taking about one minute of training. Unfortunately, lacking the Little Doll's Head Internet transport protocol, it doesn't show that well over the Web.

Artima Color Schemer applet • http://www.artima.com/applets/colorschemer/index.html

This site brings up an applet that displays (with patches) the 216 Netscape-approved colors, a selector for each of the five dominant elements of a Web page (foreground, background, and three kinds of links), and shows different combinations of page color schemes. Useful and pleasant.

Also check out the other Artima applets at http://www.artima.com/insidejvm/applets/ for a number of Java Virtual Machine traces. These demos allow you to single-step through Java VM instructions to see what the virtual machine is doing in a series of examples from Bill Venners' *Inside the Java Virtual Machine*. (McGraw-Hill, 1998)

Animation Science • http://www.animationscience.com

Animation Science claims technology that makes it easier to produce large, real-time interactive animations that transport over the Net at low bandwidth. The technology is based, we are assured, on particle physics and rule-based systems. The site shows a few movies that look like just the thing for the video-games market—if your video game needs a horde of weird creatures running across the screen. The claims of ease of use would be more convincing with an accompanying movie-making demo.

Snowbound Software • http://www.snowbnd.com

Snowbound sells a Java class component library for cross-platform imaging. It supports a large variety of image formats, including JPEG, GIF, TIFF, and so forth. The site demonstrates an applet that performs rotating, scaling, inverting, and other such operations on a document page. The applet worked quickly on my 500-MHz NT, but excruciatingly slowly on my 233-MHz G3.